

MEMORANDUM

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JUN 13' 1985

ENVIRONMENTAL EPIDEMIOLOGY
TENNESSEE DEPARTMENT OF
HEALTH AND ENVIRONMENT

TO: Honorable Mayor and
Members of City Council

FROM: M. Lyle Lacy, III
City Manager

DATE: June 7, 1985

SUBJECT: ENVIRONMENTAL CONTAMINATION -- 129 BELGRADE ROAD

DR 4

from Chicago
circle letter
see Depart-
relative to
in the

You will find attached a letter that has been sent to the Tennessee Department of Health & Environment, Division of Radiological Health, relative to soil sample results on Parcel 229, located at 129 Belgrade Road in the Warehouse Road area. The results revealed that uranium levels found on the west end of the property were above acceptable radiological standards.

Most of the 128 sample readings for mercury were generally low (below 50 ppm); however, a few measurements were in the range of 500 ppm and one sample measured a record 6,700 ppm. To further compound the problem, PCB laden capacitors are stored in an open shed on the opposite of the parcel.

Although the site is primarily used as an auto junkyard, it remains a licensed radioactive storage facility. Most of the contamination was brought to the site through the purchase of surplus equipment and parts from the federal facilities many years ago. The areas in question are poorly marked with very little restriction of movement inside the gates; i.e. protective fences have been knocked down. The current occupant of the property "Atomic City Auto Parts" apparently leases the property from owner William D. Harman II. The radioactive storage permit remains in the hands of the previous owner, DuPont Smith.

After a site visit to the property, I am convinced that immediate action should be taken by the responsible State agency to restrict access to the contaminated areas and to eliminate the environmental problems on the property.

Discussion w/ M.H.M. 6/17/85

DRH is attempting to get the site closed out. EPA has ~~jurisdiction~~ ^{jurisdiction} on the PCB ^(benzene) capacitors and have been contacted regarding them. The only contamination (radioactive) is in the soil.

.. Lyle Lacy, III

Quadrex is the only other ^{DRH} licensed storage facility in Oak Ridge w/ similar problems.

milli

OAK RIDGE OR TENNESSEE

CITY OF OAK RIDGE
MUNICIPAL BUILDING
POST OFFICE BOX 1 37831-0001
TELEPHONE (615) 483-5671

June 7, 1985

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ENVIRONMENTAL EPIDEMIOLOGY
TENNESSEE DEPARTMENT OF
HEALTH AND ENVIRONMENT

Mr. Michael H. Mobley
Director
Division of Radiological Health
Tennessee Department of Health
and Environment
150 9th Avenue, North
Nashville, Tennessee 37219-5404

Dear Mr. Mobley:

As you are probably aware, the City's Environmental Quality Advisory Board, Interim Action Study Group (IASG) has been responsible for making interim health and safety recommendations to owners of property identified to contain mercury contamination. Recently, soil samples collected by Oak Ridge Associated Universities on a parcel located at 129 Belgrade Road housing "Atomic City Auto Parts" were identified to contain not only mercury but uranium levels above acceptable radiological standards. Internal site protective fencing had been knocked down and uranium contamination was found outside a poorly marked designated storage area on the west side of the parcel. To further complicate the situation, approximately 130 two-gallon capacitors which contain Pyronol (PCB) are in storage on the opposite end of the parcel.

It was the recommendation of IASG that access to contaminated areas in the Parcel suspected and known to be high in mercury, uranium, PCB, etc., be restricted as soon as possible through improved fencing. Enclosed is a copy of the IASG recommendations and soil sample results for mercury, uranium and other metals.

The City is extremely concerned that a State licensed and regulated radioactive storage site would be permitted to reach the current condition. As such, we are interested in finding out the following information.

1. What radiological standards are used by the Division to regulate the storage facility at 129 Belgrade Road?
2. What has been the frequency of inspection for this site during the last five years? What enforcement actions have been taken by the Division in the last five years?
3. With what division and individual within the Department of Health and Environment would your group coordinate efforts in the monitoring, regulating and disposal of PCB-contaminated material at the site?

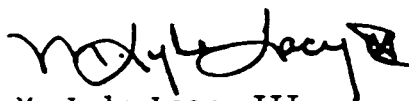
July 7, 1985

4. What enforcement mechanisms are available at present to require improved fencing and signage, and to clean up this site?
5. What health impact does the present exposures on the site have on the workers at the junkyard?
6. If the owner is unwilling to cooperate in expediting remedial actions and a performance bond is unavailable to cover associated costs, what agency will bear the expenses? How long will it reasonably take to resolve the problem?
7. What other State radiological health permits exist in Oak Ridge and the immediate area adjacent to the city? What is the current status of those operations relative to compliance with State regulations?
8. In light of current and on-line private industrial expansions in the Oak Ridge community (excluding DOE reservation) requiring radiological permits, what level of professional staffing and frequency of inspection can Oak Ridge residents expect for monitoring and regulating such operations? In light of our dominance in the nuclear field, what would be the feasibility establishing a Division of Radiological Health branch office in Oak Ridge?

The City is anxious for the Department of Health and Environment to initiate action immediately to restrict access to the parcel and to stimulate cleanup of the Belgrade Road site. Furthermore, we desire assurances that other licensed facilities are being appropriately monitored and regulated by Division personnel.

If you have any questions or need assistance, please feel free to contact Mike Walker of my staff at (615) 483-5671, extension 350.

Sincerely yours,



M. Lyle Lacy, III
City Manager

fmf

DATE: June 6, 1985

TO: 1. Oak Ridge City Manager
2. Tennessee Department of Health and Environment


FROM: Environmental Quality Advisory Board


SUBJECT: INTERIM ACTION/RECOMMENDATIONS

In accordance with the Interim Action Study of Mercury Contamination, and Work Plan proposed by EQAB on 12-1-83, and approved by City Council on 12-19-83, we have the following information regarding Oak Ridge property:

- A. Subject property address: 129 Belgrade Road, Oak Ridge, TN 37830
- B. The Interim Study Group Survey Form(s) is attached, if necessary or appropriate. Number Survey Forms on property = one
- C. Recommendation: To restrict access by fencing areas suspected and known to be high in mercury, uranium, PCB, etc.
- D. Comments or reasons for recommended option, or details beyond form content: One sample measured 6,700 ppm.
Although many of the mercury sample levels are below 100 ppm, several are in the 100 ppm to 500 ppm range, and one above this level. There are PCB-containing capacitors stored on-site in poor condition and minimal protection from the elements. We are told that several of the uranium levels are about 8-10 times applicable action levels. The "Restricted Access" recommendation clearly applies to much of the property, and depending on further evaluation and samples, may need to apply to most of the property.

If you have additional questions or requests, please advise.


Charles C. Coutant, Chairman
Environmental Quality Advisory Board


James D. Harless, Chairman
Interim Action Study Group

cc: DOE
Landowner
Charles Coutant
James Harless

CITY OF OAK RIDGE

Interim Action Study Group

Survey Report

Date. 5/23/85

Property Address 129 Belgrade Road

Property Owner William D. Harman, II

Owner Address (if different from above) 117 Park Lane, Oak Ridge, TN 37830
work: 574-2406

Owner request anonymity ☒ Yes ☐ No per Mr. Harman 6/5/85

I. ☐ No indication of mercury contaminated soil has been found on this property.

☒ Mercury contaminated soil is indicated on this property and is located:

☐ in yard only

☐ in gardening areas

☐ in pastures

☐ under or around garage or patio only

☐ under or around house

☐ under or around house and in yard

☐ under or around building (business, church, school, etc.)

☐ on building grounds

☐ in playgrounds or ball fields

☒ other On junkyard property (rented by Atomic City Auto Parts)

☐ other _____

II. Results of the survey on the property indicate

☒ Mercury levels of 630 ppm in soil.
One sample measured 6,700 ppm.

☒ 14, 24, 40, 14, 130, 14, 17, 14, 21, 26, 25, 22, 30

☒ 21, 23, 30, 21, 18, 36, 24, 43, 41, 18, 100

☒ 26, 27, 150, 480, 460, 140, 250, 13, 120

☒ 25, 51, 35, 88, 38, 57, 34, 23, 19

(Over)

☒ Potential human exposures involving.

☒ suspension of soil and inhalation

☐ direct ingestion of soil

☐ ingestion of food crops grown in contaminated soil

☐ milk from cattle grazing on contaminated pastures

☐ beef from cattle grazing on contaminated pastures

☐ other _____

III The above results are compared to the following guidelines which were developed to minimize risk of exposure by identifying areas that may require immediate remedial action:*

☒ Greater than 500 ppm - remedial action indicated

☐ 100-500 ppm - remedial action may be recommended depending on potential exposure pathways and frequency of exposure as identified in Item II above.

☐ Less than 100 ppm - referred to Oak Ridge Task Force for potential long term remedial action

IV. RECOMMENDATIONS:

The location of and levels of mercury in soil on your property and the potential exposure pathways indicate:

☐ Removal of soil

☐ Cover of soil

☒ Restrict access (Define "Restricted Access" as fencing areas high in mercury, in uranium, or PCB materials, etc. More sampling to define problem may be appropriate.)

☐ Restrict uses

☐ Stabilize against erosion (mulch, barrier, catch basin, etc.)

☐ Alternative control _____

☐ No interim action needed. However, studies by the Oak Ridge Task Force may indicate remedial action(s) in the future.

☐ Recommendations will be developed when soil or other analysis and/or an on-site survey of subject property is completed.

*Guidelines based on applicable information from the World Health Organization.

Submitted by: James D. Harless, Chairman
Interim Action Study Group

ATOMIC CITY 20 PARTS SOILS
MULTI PARAMETER ANALYSES
Results in ppm

	0,0 85-0666	10,0 85-0667	20,0 85-0668	30,0 85-0669	50,0 85-0671	60,0 85-0672	100,0 85-0676
ARSENIC	12. \pm 1.	17. \pm 1.	19. \pm 1.	12. \pm 1.	12. \pm 1.	12. \pm 1.	30. \pm 2.
BARIUM	400. \pm 50.	370. \pm 30.	670. \pm 70.	350. \pm 40.	470. \pm 40.	420. \pm 30.	730. \pm 70.
BERYLLIUM	1.1	1.2	1.9	1.7	.68	0.75	0.75
CADMIUM	9.4	15.	23.	20.	14.	3.9	30.
CHROMIUM	160. \pm 10.	230. \pm 30.	270. \pm 20.	140. \pm 10.	140. \pm 10.	140. \pm 20.	500.
COPPER	140.	220.	460.	360.	610.	510.	5400.
LEAD	270.	540.	1000.	590.	960.	550.	1700.
LITHIUM	9.7	10.	11.	10.	12.	10.	14.
MERCURY	12. \pm 1.	20. \pm 1.	41. \pm 3.	15. \pm 1.	3.7 \pm 0.6	3.4	30. \pm 10.
NICKEL	88.	88.	180.	70.	94.	67.	570.
SELENIUM	<2.	<2.	NA	<1.	<2.	<1.	<1.
SILVER	<1.	<1.	NA	2.1 \pm 0.05	<1.	2.6 \pm 0.5	5.0 \pm 0.7
THORIUM	15. \pm 1.	16. \pm 1.	14. \pm 1.	10. \pm 1.	7.2 \pm 0.5	10. \pm 1.	12. \pm 1.
URANIUM	130. \pm 7.	150. \pm 10.	280. \pm 17.	110. \pm 7.	62. \pm 4.	75. \pm 4.	240. \pm 15.
ZINC	110. \pm 80.	110. \pm 80.	2500. \pm 150.	1200. \pm 70.	500. \pm 30.	400. \pm 50.	4000. \pm 300.
ANTIMONY	4.1 \pm 0.3	8.1 \pm 0.5	11. \pm 1.	5.9 \pm 0.4	4.1 \pm 0.3	3.6 \pm 0.3	24. \pm 2.
TUNGSTEN	230. \pm 10.	200. \pm 10.	420. \pm 20.	140. \pm 10.	56. \pm 3.	57. \pm 3.	190. \pm 10.

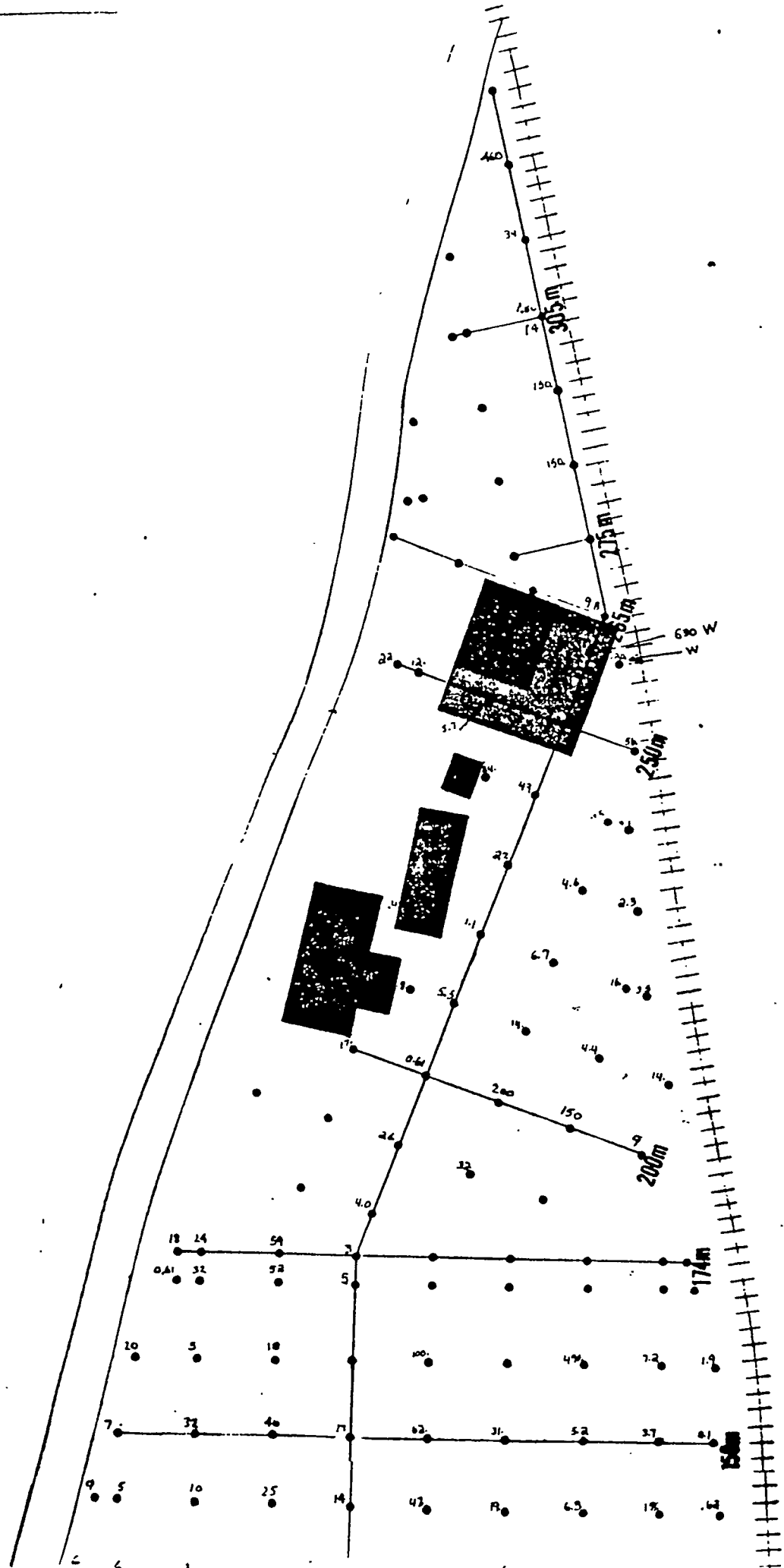
I.S.G. Analytic

ATOMIC WEIGHT PARTS BUILT
MU. -PARAMETER ANALYSES
Result in

	10, 110 85-0776	10, 130 85-0778	40, 130 85-0799	40, 150 85-0801	50, 140 85-0807
ARSENIC	12. \pm 1.	10. \pm 1.	7.6 \pm 0.8	20. \pm 1.	35. \pm 2.
BARIUM	700. \pm 70.	400. \pm 40.	900. \pm 200.	1000. \pm 200.	780. \pm 70.
BERYLLIUM	3.6	1.2	1.0	1.0	1.2
CADMIUM	53.	8.9	12.	12.	6.7
CHROMIUM	650.	100. \pm 6.	240. \pm 15.	150. \pm 10.	240. \pm 20.
COPPER	280.	260.	940.	260.	310.
LEAD	420.	320.	1200.	3100.	3800.
LITHIUM	11.	12.	9.7	14.	21.
MERCURY	120. \pm 6.	12. \pm 1.	800. \pm 50.	250. \pm 15.	6700. \pm 400.
NICKEL	160.	77.	83.	120.	450.
SELENIUM	<1.	1.6 \pm 1.	<5.	<5.	NA
SILVER	27. \pm 0.7	<1.	19. \pm 2.	<3.	<7.
THORIUM	18. \pm 1.	12. \pm 1.	11. \pm 1.	6.5 \pm 0.5	10. \pm 1.
URANIUM	280. \pm 17.	160. \pm 10.	370. \pm 20.	24. \pm 3.	46. \pm 3.
ZINC	1200. \pm 100.	1200. \pm 70.	1100. \pm 120.	3200. \pm 200.	1150. \pm 100.
ANTIMONY	11. \pm 1.	5.9 \pm 0.4	8.4 \pm 0.6	50. \pm 3.	6.6 \pm 0.6
TUNGSTEN	300. \pm 20.	55. \pm 3.	95. \pm 2.	70. \pm 4.	47. \pm 3.

ATOMIC WEIGHTS TO PARTS PER MILLION
MULTI-PARAMETER ANALYSES
Results in

	120, 0 85-0678	170, 0 85-0683	10, R10 85-0694	10, R20 85-0695	20, R20 85-0700	20, R30 85-0701	30, R10 85-0704
ARSENIC	25. \pm 1.	12. \pm 1.	26. \pm 2.	21. \pm 1.	26. \pm 2.	20. \pm 1.	21. \pm 1.
BARIUM	230. \pm 50.	400. \pm 60.	770. \pm 60.	570. \pm 60.	570. \pm 60.	500. \pm 50.	500. \pm 60.
BERYLLIUM	0.95	1.2	1.3	1.2	2.0	1.2	1.2
CADMIUM	8.8	5.2	18.	14.	19.	29.	21.
CHROMIUM	160. \pm 10.	110. \pm 20.	350. \pm 30.	230. \pm 15.	260. \pm 15.	170. \pm 10.	190.
COPPER	360.	1200.	980.	1000.	920.	390.	670.
LEAD	1100.	1500.	2600.	2200.	2700.	780.	1300.
LITHIUM	8.5	18.	7.9	9.2	8.7	18.	8.0
MERCURY	8.7 \pm 0.7	2.5 \pm 0.7	31. \pm 2.	31. \pm 2.	39. \pm 3.	16. \pm 1.	22. \pm 2.
NICKEL	96.	210.	260.	150.	210.	93.	120.
SELENIUM	2. \pm 1.	2. \pm 1.	<1.	<1.	<2.	<1.	4.3 \pm 2.
SILVER	<1.	<1.	7.0 \pm 0.7	8.4 \pm 0.9	7.4 \pm 0.9	3.5 \pm 0.5	2.7 \pm 0.7
THORIUM	7.8 \pm 0.5	23. \pm 1.	12. \pm 1.	11. \pm 1.	12. \pm 1.	12. \pm 1.	10. \pm 1.
URANIUM	35. \pm 2.	16. \pm 1.	300. \pm 20.	470. \pm 30.	600. \pm 40.	100. \pm 6.	320. \pm 20.
ZINC	580. \pm 40.	420. \pm 30.	2700. \pm 180.	1800.	3500. \pm 200.	1600. \pm 100.	2700. \pm 170.
ANTIMONY	10. \pm 1.	8.1 \pm 0.5	17. \pm 1.	13. \pm 1.	18. \pm .1	10. \pm 1.	12. \pm 1.
TUNGSTEN	72. \pm 4.	72. \pm 4.	310. \pm 20.	250. \pm 15.	330. \pm 20.	85. \pm 5.	280. \pm 20.



11g - ppm
U - ppm
D Depleted
E Enriched
N Natural (Appar)

